

by standard, pref. submerged aerobic techniques, and will produce (I) even when glucose is used as carbon source. Pref. the pH is 5-5.5 and temp. 25-28 deg C and (I) prodn. can be enhanced by adding small amts. of melibiose.

USE/ADVANTAGE - (I) hydrolyses raffinose to galactose and sucrose and is used to destroy raffinose in sugar beet processing. Raffinose delays crystn. of sucrose and causes losses of yield. *S. cerevisiae* requires shorter fermentation times than fungi previously used, and the prod. is free of undesirable invertase activity. Bul.16/30.4.84 (5pp)

NEST D18 80-31104C/18 = SU 1090-263-A
Prodn. of substance with baregine-like bacteriostatic activity - by culturing *Beggiatoa* microorganism

SOC PROD NESTLE SA 01.11.78-CH-011230

B04 + P34 (30.04.84) *BE-872360-A C12n-01 C12p-01

31.10.79 as 836784 (367GW)

Substance with bacteriostatic activity is produced by (a) culturing a microorganism of the type *Beggiatoa* in an aq. nutrient medium under aerobic conditions with agitation, and (b) recovering the biomass and/or the culture medium.

Activity of the biomass against *Ps. aeruginosa*, *S. aureus* and *E. coli* is comparable to that of natural 'baregine' (a gelatinous material found in sulphurous thermal waters); the activity of the supernatant is somewhat lower. The prods. can be used for cutaneous massage or as skin cosmetics. Bul.13/7.4.84. (6pp)

STAV = * D12 84-306297/49 *SU 1090-316-A
Meat injecting compn. - contains additionally cheese proteins concentrate, extract of specified fungi mycelium and soured enriched milk whey

STAVROPOL POLY 15.10.82-SU-501120

(07.05.84) A23b-04/02

15.10.82 as 501120 (835MW)

Moulded meat products are made by injecting meat with a compound saline soln. The process is accelerated and better yields are secured, by injecting the following soln. (wt.%): concentrate of cheese proteins (I) 20-25, extract of mycelium from the fungus *Polytrichum squamosum* VSB-917 (II) 20-25, enriched milk whey soured with acidophilic bacillus strain 128 (III), 0.25-0.40. 10 power 6 bacteria per 1 kg meat, cooking salt 8-12, NaNO₂ 0.025-0.035, tri-Na-pyrophosphate. 10H₂O 0.5-1.0, remainder-water.

ADVANTAGE - Raising prod. yield by 10% and increased rate of meat salination. Bul.17/7.5.84 (3pp Dwg.No.0/0)

C84-130629

UGLI = * D13 84-306298/49 *SU 1090-317-A
Calves whey-based feedstuff prepn. - by pasteurising, vitamins enrichment and souring with *Lactobacterium acidophilus*

UGLICH BUTTER CHEES 05.07.82-SU-465483

C03 (07.05.84) A23c-11 A23c-21

05.07.82 as 465483 (835WD)

Whey based feedstuff for calves is made from a pasteurised blend which is soured with a culture of *Lactobacterium acidophilus*. The biomass is maintained until a desired degree of acidity is reached.

In feedstuff prepn. vitamin B12 and a protein-vitamin concentrate are added to the whey, so that the ratio of protein to food is 1:(3-4). The fortified product is subjected to hydrolysis by a proteolytic enzyme compsn. until the non-protein nitrogen in the final product is 40-60% of the total nitrogen. The hydrolysed mix is then treated with a *B. bifidum* culture at 37-38 deg.C until the acidity reaches 110-120 deg.T.

ADVANTAGE - The food is more assimilable and has better medical and prophylactic properties. (3pp Dwg.No.0/0)

C84-130630

EXAMPLE

To 1000l whey contg. 1% protein are added 6kg protein-vitamin concentrate contg. 60% protein and 5kg vitamin B12. The mixture is heated to 56 deg.C, the pH is adjusted to 7.5 and 150g pancreatin are added. After 2 hrs at 56 deg.C, the mixture is heated to 65 deg.C for 30 min, cooled to 38 deg.C and inoculated with a 1% soln. containing 10power8 koe/ml acidophilic bacilli and 10power8 koe/ml *Bifidobacterium Longum*. Fermentation proceeds to acidity 110 deg.T, after which the food is ready for use. Calves fed with this additive to the basic ration, suffered less from gastro-intestinal illnesses than controls. Bul.17/7.5.84.

CONF = * D13 84-306299/49 *SU 1090-318-A
Confectionery substance for sweets and filled caramels prodn. - contains sugar, milk wye, molasses, citric acid and aromatic additives

CONFECTIONARY IND 30.06.82-SU-478445

(07.05.84) A23g-03

30.06.82 as 478445 (835GW)

Soft sweets and fillings for caramels are made from sugar, whey, syrup, citric acid, aromatic and flavouring additives. Improved

sugar 54.5-77.5, whey of acidity 160-300 deg.T 1.5-7.5, molasses 8-12, citric acid 0.08-2.9, and additives the remainder.

ADVANTAGE - Better quality products are obtd.

Sugar and fruitly sweets are made from (wt.%) granulated sugar 55-74.5, clotted whey contg. 65-70% dry matter 25-30% saccharoses and of acidity 250-300 deg.T 4.5-5.5, molasses 8-10, citric acid 0.18-1.8, remainder additives. Instead of clotted whey, sugar-concentrated whey can be used (I). It contains 75-90% dry matter, 54-58% saccharoses and has an acidity of 160-150 deg.T. The base contains (wt.%) granulated sugar 54.5-73.5, (I) 5.5-4.5 syrup 6.5-10, citric acid 0.08-0.7 and additives the remainder.

Caramel filler is made from sugar-clotted whey. The filler contains wt.%; granulated sugar 60-75, clotted whey 4-7.5, syrup 15-20, citric acid 2.3-2.9 and additives the remainder. Bul.17/7.5.84. (5pp Dwg.No.0/0)

C84-130631

BIOT = * D13 84-306300/49 *SU 1090-319-A
Piglet fodder additive prodn. - uses *Chlorella* grown on medium contg. alkaline industrial water and ion-exchange column effluent from lysine prodn.

BIOTECH RES INST 06.06.82-SU-467679

C03 (D:5) (07.05.84) A23k-01

06.05.82 as 467679 (835MW)

Food additive for farm animals, particularly pigs, is made of *Chlorella* which is grown on nutrient medium, after which the suspension is separated. The nutrient medium is made from a mixture of alkaline industrial water and ion-exchange column effluent arising after sorption during lysine prodn. at pH 5.5-5.7. After separation, the *Chlorella* biomass is mixed with the ion-exchange column effluent neutralised to pH 6.0-7.0. The ratio of this admixture is 1:1-1:5.

The additive is made of the industrial water and the lysine production effluent under the conditions defined above. The additive has a water-content of 86% and contains 24% micro-algae in the dry state. The algae contain (%): protein 31, carotene 0.02, lysine 2.4, sugar 6.0, Ca 0.9, P0.2. The product is added to piglet feed. The latter contains 3% fish meal, 1.5% bone meal and 1.5% yeast; 330g of wet additive are used per kg instead of the traditional components.

ADVANTAGE - Reduced consumption of deficient proteins. Bul.17/7.5.84. (3pp Dwg.No.0/0)

C84-130632

GIME/ * D13 84-306301/49 *SU 1090-320-A
Processed bone waste treatment for animal feed prodn. - involves defatting by heat treatment and water removal by treatment in centrifuge

GIMELFARB N M 06.05.82-SU-435614

C03 G03 (07.05.84) A23k-01/10

06.05.82 as 435614 (835GW)

Waste obtained when bones are stripped for glue and gelatin manufacture is processed into animal feed. The waste is defatted, dried, screened and crushed. The liq. effluent is defatted by constant stirring at 90-100 deg.C for 45-60 min. Water is removed by centrifuging to 20-30% water-content, while maintaining the temp. at 90-100 deg.C.

Typically, a meat and bone slurry of water content 90% and at 75 deg.C is heated with steam at 3 atmos. to 95 deg.C for 45 mins. The hot suspension is pumped to a centrifuge erating at 2500 rev/min. The solids leave the centrifuge at water content 22.6% and are dried in a drum dryer for 20 min to water content 10%. Final screening and crushing are conducted by current procedure.

ADVANTAGE - Better quality feed meal is ensured. Bul.17/7.5.84 (5pp Dwg.No.0/0)

C84-130633

ODME = * D21 84-306306/49 *SU 1090-399-A
Treating allergic affection of oral cavity mucous membrane - involves rinsing with specified drug after meals and then internally administering diazoline

ODESS MEDICINE INST 22.09.80-SU-986238

B05 (07.05.84) A61k-06/02

22.09.80 as 986238 (114MW)

As previously, the treatment involves drug therapy. After carefully removing dental deposits, the oral cavity is treated with antiseptic soln. (H₂O₂, KMnO₄, furacin, and rivanol) before rinsing with Livial (RTM) 3 times daily after meals. 30-50 mins. after rinsing, diazolin (dosage 0.05) is given internally 3 times daily over 3-5 days.

USE/ADVANTAGE - Reduced duration of therapy from 20-30 to 10 days, e.g. in stomatology. Typically, the proposed method prevents complications during therapy, improves the overall state of the patient, and accelerates the processes of epithelisation of erosion-ulceral infections. Bul.17/7.5.84 (2pp Dwg.No.0/0)

C84-130638

Russian Patent 1090316 A

21, 3501120/28-13

22) 15.10.82

(46) 7.5.84. Bulletin No. 17

(72) A. P. Dubinskaya, L. A. Sarycheva, A. A. Borisenko, T. E. Shilovskaya and G. R. Morozova

(71) Stavropol Polytechnical Institute

(53) 664.95.05 (088.8)

(56) 1. USSR Inventor's Certificate No: 974989, Class A 23 B 4/02, 1977.

2. USSR Inventor's Certificate No: 584835, Class A 23 B 4/01, 1976.

(54) (57) A COMPOSITION FOR INJECTING MEAT, comprising sodium nitrite, trisodium pyrophosphate nonahydrate, edible common salt and water, characterised in that in order to speed up the process of salting the meat and increasing the output thereof, the composition additionally contains concentrated serous proteins enriched with whey and fermented with acidophilic bacillus, strain 12b, and mycelium extract of *Polyprus squamosus* VSb-917, the components being in the following proportions in wt.%:

Concentrated serous proteins	20 - 25
Mycelium extract of <i>Polyprus squamosus</i> VSb-917	20 - 25
Enriched whey fermented with acidophilic bacillus, strain 12b	0.25-0.40 million microbial bodies per kg of meat

Edible cooking salt

1 - 12

Sodium nitrite

0.025-0.035

Trisodium pyrophosphate nonahydrate

1.5 - 1.0

Remainder:

Water

The invention relates to the meat-processing industry, particularly to compositions for injecting meat in the production of shaped meat products.

A known composition for injecting meat comprises salt, sugar, sodium nitrite, sodium caseinate and blood plasma [1].

The disadvantage of the said composition is its low nutritional value.

The substance nearest to the invention is a composition for injecting meat in the production of shaped meat products, comprising rendered or melted avian or animal fat, dried cow's milk, edible gelatin, edible common salt, sugar, trisodium pyrophosphate nonahydrate, sodium nitrite and water [2].

However this composition does not contain components which intensify the maturation of meat in brine so as to improve the consistency, flavour and taste and increase the output and nutritional value of the finished products.

The object of the invention is to speed up the process of salting the meat and increase the output thereof.

To this end, the composition for injecting meat containing sodium nitrite, trisodium pyrophosphate nonahydrate, edible common salt and water

additionally contains concentrated serous proteins and enriched whey fermented with acidophilic bacillus strain 12b and mycelium extract of *Polyprus squamosus* VSB-1917, the proportions of the components being as follows in wt. %:

Concentrated serous proteins	20 - 25
Mycelium extract of <i>Polyprus squamosus</i> VSB-917	20 - 25
Enriched whey fermented with acidophilic bacillus, strain 12b	0.25-0.40 million microbial bodies per kg of meat
Edible cooking salt	8 - 12
Sodium nitrite	0.025-0.035
Trisodium pyrophosphate nonahydrate	0.5 - 1.0
Remainder:	Water

The enriched whey, interacting with meat proteins and KSB proteins, disintegrates them by proteolysis. The result of the proteolytic changes is an increase in the hydrophilic properties of the proteins. This, together with the high hygroscopicity of the KSB, increases the output of the finished product by 10% on average. Physical and chemical investigations (water-bonding capacity by the method of Grau and Hamm modified by Volovinskii, moisture-retaining capacity by the method of centrifuging, moisture content by the method of drying, pH, plasticity, total protein content after Kjeldahl et al.) indicate a change in the re-distribution of moisture in the finished product compared with the

product obtained by using the composition according to the prototype. There is an increase in the proportion of firmly-bonded moisture, which is one of the causes of the increase in output of the product. On the other hand the output of product is significantly influenced by indirect incorporation of non-meat proteins in the structure of the non-disintegrated meat tissue.

The enriched whey in conjunction with the mycelium extract of *Polyprus squamosus* VSB-1917 speeds up the biochemical and physical-chemical processes of maturation of meat, the development of flavour and the characteristic taste of the finished product.

The development of taste and flavour is significantly influenced by sugar and the constituents thereof. KSB introduced into the meat completely takes the place of sugar, one of the expensive components of compositions according to the prototype. Secondly lactose, one of the constituents of KSB, itself significantly promotes the development of flavour. However, tests have shown that if KSB and enriched whey are used within the limits stated in the description without introducing mycelium extract of *Polyprus squamosus* VSB-917, the characteristic though non-pronounced after-taste of KSB is not removed. If mycelium extract is added in the proportions stated in the description and experimentally determined, the after-taste of KSB is completely removed. The product acquires a pleasant taste and flavour and

the physical-chemical and biochemical maturation of the meat is speeded up.

The whey is enriched with a content of acidophilic bacillus, strain 12b of 0.25-0.40 million microbial bodies per kg of meat. These proportions are chosen for the following reasons. If the quantity of microbial bodies is reduced (less than 0.25 million per kg meat), the enriched whey has less effect on the maturation of the meat, i.e. the process is not significantly shortened. Also KSB in microscopic section appears in the form of very small grains in the general mass of the composition. This undesirably affects the taste when chewed. When the quantity of microbial bodies is increased above 0.40 million per kg meat, the structure thereof quickly (in about 20 hours) acquires an almost pasty or greasy consistency.

If salt is added in the proportion of 8 wt.%, with 0.025 wt.% sodium nitrate, less than 0.25 million microbial bodies of acidophilic bacillus strain 12b per kg meat and less than 20 wt.% mycelium extract, the activity of the acidophilic bacillus and mycelium bodies decreases owing to the preponderance of salt. However if the content of microbial bodies per kg meat rises to only 0.40 million, in spite of the increase in salt to 12 wt.% and sodium nitrate to 0.035 wt.% and the increase in mycelium extract to above 25 wt.%, the salt and sodium nitrate have less influence on the development of the microbial bodies. This is due to the presence of KSB

proteins, which increase by up to 15 wt. and envelop the living cell and serve as a buffer and mitigate the effect of the remaining components on the microbial bodies. Under these conditions the metabolic products of the acidophilic culture (lactic and acetic acid, amino acids, antibiotic substances and vitamins) accumulate in the enriched whey and their overall effect is to speed up the process of salting meat and to increase the output thereof by 10%.